

OLD DRAWINGS

Gag\_AF110965\_BW\_mod

ATGGGCGCCCGCGCCAGCATCCTGCGCGGGCGGCAAGCTGGACGCCTGGGAGCGCATCCGCC  
TGGCCCCCGGCGGCAAGAAGTGCTACATGATGAAGCACCTGGTGTGGGCCAGCCGCGAGCT  
GGAGAAGTTCGCCCTGAACCCCGGCCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATC  
CGCCAGCTGCACCCCGCCCTGCAGACCGGCAGCGAGGAGCTGAAGAGCCTGTTCAACACCG  
TGGCCACCTGTACTGCGTGACGAGAAGATCGAGGTCCGCGACACCAAGGAGGCCCTGGA  
CAAGATCGAGGAGGAGCAGAACAAGTGCCAGCAGAAGATCCAGCAGGCCGAGGCCCGCGAC  
AAGGGCAAGGTGAGCCAGAACTACCCCATCGTGCGAACCCTGCAGGGCCAGATGGTGCACC  
AGGCCATCAGCCCCCGCACCTGAACGCCTGGGTGAAGGTGATCGAGGAGAAGGCCCTTCAG  
CCCCGAGGTGATCCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAAC  
ACGATGTTGAACACCGTGCGCGGCCACCAGGCCGCCATGCAGATGCTGAAGGACACCATCA  
ACGAGGAGGCCCGCGAGTGGGACCGCGTGACCCCGTGACGCGCGCCCCATCGCCCCCGG  
CCAGATGCGCGAGCCCCCGCGGCAGCGACATCGCCGGCACCACCAGCACCTGCAGGAGCAG  
ATCGCCTGGATGACCAGCAACCCCCCATCCCCGTGGGCGACATCTACAAGCGGTGGATCA  
TCCTGGGCCTGAACAAGATCGTGCGGATGTACAGCCCCGTGAGCATCCTGGACATCAAGCA  
GGGCCCCAAGGAGCCCTTCGCGGACTACGTGGACCGCTTCTTCAAGACCCTGCGCGCCGAG  
CAGAGCACCCAGGAGGTGAAGAAGTGGATGACCGACACCCCTGCTGGTGCAGAACGCCAACC  
CCGACTGCAAGACCATCCTGCGCGCTCTCGGCCCGGCGCCAGCCTGGAGGAGATGATGAC  
CGCCTGCCAGGGCGTGGGCGGCCCCAGCCACAAGGCCCGCGTGCTGGCCGAGGCGATGAGC  
CAGGCCAACACCAGCGTGATGATGCAGAAGAGCAACTTCAAGGGCCCCCGGCGCATCGTCA  
AGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCCGCAACTGCCGCGCCCCCGCAAGAA  
GGGCTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCC  
AACTTCCTGGGCAAGATCTGGCCCAGCCACAAGGGCCGCCCCGGCAACTTCCTGCAGAGCC  
GCCCCGAGCCCACCGCCCCCCCCCGCCGAGAGCTTCCGCTTCGAGGAGACCACCCCCGGCCA  
GAAGCAGGAGAGCAAGGACCGCGAGACCCTGACCAGCCTGAAGAGCCTGTTCCGGCAACGAC  
CCCCTGAGCCAGTAA

Figure 1

Gag\_AF110967\_BW\_mod

ATGGGCGCCCGCGCCAGCATCCTGCGCGGCGAGAAGCTGGACAAGTGGGAGAAGATCCGCC  
TGCGCCCCGGCGGCAAGAAGCACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGCGAGCT  
GGAGGGCTTCGCCCTGAACCCCGGCCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATG  
AAGCAGCTGCAGCCCGCCCTGCAGACCGGCACCGAGGAGCTGCGCAGCCTGTACAACACCG  
TGGCCACCCTGTACTGCGTGCACGCCGGCATCGAGGTCCGCGACACCAAGGAGGCCCTGGA  
CAAGATCGAGGAGGAGCAGAACAAGTCCCAGCAGAAGACCCAGCAGGCCAAGGAGGCCGAC  
GGCAAGGTGAGCCAGAACTACCCCATCGTGCAGAACCTGCAGGGCCAGATGGTGGACCAGG  
CCATCAGCCCCCGCACCCCTGAACGCCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAGCCC  
CGAGGTGATCCCCATGTTCAACGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAACACG  
ATGTTGAACACCGTGGGCGGCCACCAGGCCGCCATGCAGATGCTGAAGGACACCATCAACG  
AGGAGGCCGCCGAGTGGGACCGCCTGCACCCCGTGCAGGCCGGCCCCGTGGCCCCCGGCCA  
GATGCGCGACCCCCCGCGGCAGCGACATCGCCGGCGCCACCAGCACCTGCAGGAGCAGATC  
GCCTGGATGACCAGCAACCCCCCGTGCCCGTGGGCGACATCTACAAGCGGTGGATCATCC  
TGGGCCTGAACAAGATCGTGCGGATGTACAGCCCCGTGAGCATCCTGGACATCCGCCAGGG  
CCCCAAGGAGCCCTTCCGCGACTACGTGGACCGCTTCTTCAAGACCTGCGCGCCGAGCAG  
GCCACCCAGGACGTGAAGAACTGGATGACCGAGACCTGCTGGTGCAGAACGCCAACCCCG  
ACTGCAAGACCATCCTGCGCGCTCTCGGCCCCGGCGCCACCCTGGAGGAGATGATGACCGC  
CTGCCAGGGCGTGGGCGGCCCCGGCCACAAGGCCCGCGTGCTGGCCGAGGCGATGAGCCAG  
GCCAACAGCGTGAACATCATGATGCAGAAGAGCAACTTCAAGGGCCCCCGCGCAACGTCA  
AGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCAAGAACTGCCGCGCCCCCGCAAGAA  
GGGCTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCC  
AACTTCCTGGGCAAGATCTGGCCCAGCCACAAGGGCCGCCCGGCAACTTCCTGCAGAACC  
GCAGCGAGCCCGCGCCCCCACCCTGCCACCGCCCCCCCCCGCCGAGAGCTTCCGCTTCGA  
GGAGACCACCCCGCCCCCAAGCAGGAGCCCAAGGACCGCGAGCCCTACCGCGAGCCCCTG  
ACCGCCCTGCGCAGCCTGTTCCGGCAGCGGCCCCCTGAGCCAGTAA

Figure 2

Fig. 3

Env\_AF110968\_C\_BW\_opt

--> signal peptide (1-81)  
ATGCGCGTGATGGGCATCCTGAAGAACTACCAGCAGTGGTGGATGTGGGGCATCCTGGGCTTCTGGATGCTGATCA  
TCAGCAGCGTGGTGGGCAACCTGTGGGTGACCGTGTACTACGGCGTGCCCGTGTGGAAGGAGGCCAAGACCACCCT  
GTTCTGCACCAGCGACGCCAAGGCCTACGAGACCGAGGTGCACAACGTGTGGGCCACCCACGCCTGCGTGCCACCC  
GACCCCAACCCCCAGGAGATCGTGCTGGAGAACGTGACCGAGAACTTCAACATGTGGAAGAACGACATGGTGGACC  
AGATGCACGAGGACATCATCAGCCTGTGGGACCAGAGCCTGAAGCCCTGCGTGAAGCTGACCCCCCTGTGCGTGAC  
CCTGAAGTGCCGCAACGTGAACGCCACCAACAACATCAACAGCATGATCGACAACAGCAACAAGGGCGAGATGAAG  
AACTGCAGCTTCAACGTGACCACCGAGCTGCGCGACCGCAAGCAGGAGGTGCACGCCCTGTTCTACCGCCTGGACG  
TGGTGCCCTGCAGGGCAACAACAGCAACGAGTACCGCCTGATCAACTGCAACACCAGCGCCATCACCCAGGCCTG  
CCCCAAGGTGAGCTTCGACCCCATCCCCATCCACTACTGCACCCCGCCGGCTACGCCATCCTGAAGTGCAACAAC  
CAGACCTTCAACGGCACCGGCCCTGCAACAACGTGAGCAGCGTGCAGTGCGCCACCGGCATCAAGCCCGTGGTGA  
GCACCCAGCTGCTGCTGAACGGCAGCCTGGCCAAGGGCGAGATCATCATCCGACGCGAGAACCTGGCCAACAACGC  
CAAGATCATCATCGTGCAGTGAACAAGCCCGTGAAGATCGTGTGCGTGCGCCCAACAACAACACCCGCAAGAGC  
GTGCGCATCGGCCCGGCCAGACCTTCTACGCCACCGCGAGATCATCGCGACATCCGCCAGGCCTACTGCATCA  
TCAACAAGACCGAGTGAACAGCACCTGCAGGGCGTGAGCAAGAAGCTGGAGGAGCACTTCAGCAAGAAGGCCAT  
CAAGTTCGAGCCAGCAGCGGGCGACCTGGAGATCACCACCCACAGCTTCAACTGCCGCGCGAGTTCTTCTAC  
TGCAGACACCAGCCAGCTGTTCAACAGCACCTACAGCCCGAGCTTCAACGGCACCGAGAACAGCTGAACGGCACCA  
TCACCATCACCTGCCGCATCAAGCAGATCATCAACATGTGGCAGAAGGTGGGCCGCGCCATGTACGCCCCCCCCAT  
CGCCGGCAACCTGACCTGCGAGAGCAACATCACCAGCCTGCTGCTGACCCGCGACGGCGGCAAGACCGGCCCCAAC  
GACACCGAGATCTTCGCCCCGGCGGGCGGACATGCGCGACAACCTGGCGCAACGAGCTGTACAAGTACAAGGTGG  
TGGAGATCAAGCCCTGGGCGTGGCCCCACCGAGGCCAAGCGCCGCTGGTGGAGCGCGAGAAGCGCGCCCGTGGG  
CATCGGCGCCGTGTTCTCTGGGCTTCTGGGCGCCCGCGCAGCACCATGGGCGCCGCCAGCATCACCTGACCGTG  
CAGGCCCGCTGCTGCTGAGCGGCATCGTGAGCAGCAGACAACCTGCTGCGCGCCATCGAGGCCAGCAGCACC  
TGCTGCAGCTGACCGTGTGGGGCATCAAGCAGCTGCAGACCCGCATCCTGGCCGTGGAGCGCTACCTGAAGGACCA  
GCAGCTGCTGGGCATCTGGGGCTGCAGCGGCAAGCTGATCTGCACCACCGCCGTGCCCTGGAACAGCAGCTGGAGC  
AACCGCAGCCACGACGAGATCTGGGACAACATGACCTGGATGCAGTGGGACCGCGAGATCAACAACCTACACCGACA  
CCATCTACCGCCTGCTGGAGGAGAGCCAGAACCAGCAGGAGAAGAACGAGAAGGACCTGCTGGCCCTGGACAGCTG  
GCAGAACCTGTGGAACCTGGTTTCAGCATCACCAACTGGCTGTGGTACATCAAGATCTTCATCATGATCGTGGGCGGC  
CTGATCGGCCTGCGCATCATCTTCGCCGTGCTGAGCATCGTGAACCGCTGCGCCAGGGCTACAGCCCCCTGCCCT  
TCCAGACCCTGACCCCCAACCCCCGCGAGCCCGACCGCCTGGGCCGCATCGAGGAGGAGGGCGGCGAGCAGGACCG  
CGGCCGACGATCCGCCTGGTGAGCGGCTTCTGGCCCTGGCCTGGGACGACCTGCGCAGCCTGTGCCTGTTTCAGC  
TACCACCGCCTGCGCGACTTCATCCTGATCGCCGCCCGCGTGTGGAGCTGCTGGGCCAGCGCGGCTGGGAGGCC  
TGAAGTACCTGGGCAGCCTGGTGCAGTACTGGGGCTGGAGCTGAAGAAGAGCGCCATCAGCCTGCTGGACACCAT  
CGCCATCGCCGTGGCCGAGGGCACCGACCGCATCATCGAGTTTCATCCAGCGCATCTGCCGCGCCATCCGCAACATC  
CCCCGCCGCATCCGCCAGGGCTTCGAGGCGCCCTGCAGTAA

Fig. 4

Env\_AF110975\_C\_BW\_opt

--> signal peptide (1-72) \/-->  
ATGCGCGTGCGCGGCATCCTGCGCAGCTGGCAGCAGTGGTGGATCTGGGGCATCCTGGGCTTCTGGATCTGCAGCG  
gp120/140/160 (72)  
GCTTGGGCAACCTGTGGGTGACCGTGTACGACGGCGTGCCCGTGTGGCGCGAGGCCAGCACCACCTGTTCTGCGC  
CAGCGACGCCAAGGCCTACGAGAAGGAGGTGCACAACGTGTGGGCCACCCACGCCTGCGTGCCACCGACCCCAAC  
CCCCAGGAGATCGAGCTGGACAACGTGACCGAGAACTTCAACATGTGGAAGAACGACATGGTGGACCAGATGCACG  
AGGACATCATCAGCCTGTGGGACCAGAGCCTGAAGCCCCGCGTGAAGCTGACCCCCCTGTGCGTGACCCTGAAGTG  
CACCAACTACAGCACCAACTACAGCAACACCATGAACGCCACCAGTACAACAACAACACCACCGAGGAGATCAAG  
AACTGCACCTTCAACATGACCACCGAGCTGCGCGACAAGAAGCAGCAGGTGTACGCCCTGTTCTACAAGCTGGACA  
TCGTGCCCCCTGAACAGCAACAGCAGCGAGTACCGCCTGATCAACTGCAACACCAGCGCCATCACCAGGCCTGCC  
CAAGGTGAGCTTCGACCCCATCCCCATCCACTACTGCGCCCCCGCGGCTACGCCATCCTGAAGTGCAAGAACAAC  
ACCAGCAACGGCACCGGCCCCCTGCCAGAACGTGAGCACCGTGCAGTGACCCACGGCATCAAGCCCGTGGTGAGCA  
CCCCCTGCTGCTGAACGGCAGCCTGGCCGAGGGCGCGGAGATCATCATCCGAGCAAGAACCTGAGCAACAACGC  
CTACACCATCATCGTGACCTGAACGACAGCGTGGAGATCGTGTGACCCGCCCAACAACAACACCCGCAAGGGC  
ATCCGCATCGGCCCCGCGCAGACCTTCTACGCCACCGAGAACATCATCGGCGACATCCGCCAGGCCCACTGCAACA  
TCAGCGCCGGCGAGTGGAACAAGGCCGTGCAGCGCGTGAGCGCCAAGCTGCGCGAGCACTTCCCCAACAAGACCAT  
CGAGTTCAGCCAGCAGCGGCGGCGACCTGGAGATCACCACCCACAGCTTCAACTGCCGCGGCGAGTTCTTCTAC  
TGCAACACCAGCAAGCTGTTCAACAGCAGCTACAACGGCACCGCTACCGCGGCACCGAGAGCAACAGCAGCATCA  
TCACCTGCCCTGCCGCATCAAGCAGATCATCGACATGTGGCAGAAGGTGGGCCGCGCCATCTACGCCCCCCCCAT  
CGAGGGCAACATCACCTGCAGCAGCAGCATCACCGCCTGCTGCTGGCCCCGCGACGGCGGCCTGGACAACATCACC  
ACCGAGATCTTCCGCCCCCAGGGCGGCGACATGAAGGACAACCTGGCGCAACGAGCTGTACAAGTACAAGGTGGTGG  
AGATCAAGCCCTGGGCGTGGCCCCCACCAGAGGCCAAGCGCCGCGTGGTGGAGCGCGAGAAGCGCCGCTGGGCAT  
gp120 (1509) <--\/--> (1510) gp41  
CGGCGCCGTGATCTTCGGCTTCTGGGCGCCGCGCGCAGCAACATGGGCGCCGCGCAGCATCACCTGACCGCCAG  
GCCCGCCAGCTGCTGAGCGGCATCGTGACGAGCAGAGCAACCTGCTGCGCGCCATCGAGGCCAGCAGCACATGC  
TGCAGCTGACCGTGTGGGGCATCAAGCAGCTGCAGGCCGCGTGTGGCCATCGAGCGCTACCTGAAGGACCAGCA  
GCTGCTGGGCATCTGGGGCTGCAGCGCAAGCTGATCTGCACCACCACCGTGGCCTGGAACAGCAGCTGGAGCAAC  
AAGACCCAGGGCGAGATCTGGGAGAACATGACCTGGATGCAGTGGGACAAGGAGATCAGCAACTACACCGGCATCA  
TCTACCGCCTGCTGGAGGAGAGCCAGAACCAGCAGGAGCAGAACGAGAAGGACCTGCTGGCCCTGGACAGCCGCAA  
CAACCTGTGGAGCTGGTTCAACATCAGCAACTGGCTGTGGTACATCAAGATCTTCATCATGATCGTGGGCGGCCGT  
gp140 (2022) <--\/  
ATCGGCCGTGCGCATCATCTTCGCCGTGCTGAGCATCGTGAACCGCGTGCGCCAGGGCTACAGCCCCCTGAGCTTCC  
AGACCTGACCCCCAACCCCCGCGGCTGGACCGCTGGGCCGCATCGAGGAGGAGGGCGGCGAGCAGGACCGCGA  
CCGCGCATCCGCTGGTGCAGGGCTTCTGGCCCTGGCCTGGGACGACCTGCGCAGCCTGTGCCTGTTTACGCTAC  
CACCGCCTGCGCGACCTGATCCTGGTGACCGCCCCGCGTGGTGGAGCTGCTGGGCCGAGCAGCCCCCGCGCCTGC  
AGCGCGCTGGGAGGCCCTGAAGTACCTGGGACGCTGGTGCAGTACTGGGGCCTGGAGCTGAAGAAGAGCGCCAC  
CAGCCTGCTGGACAGCATCGCCATCGCCGTGGCCGAGGGCACCGACCGCATCATCGAGGTGATCCAGCGCATCTAC  
CGCGCCTTCTGCAACATCCCCCGCCGCGTGCGCCAGGGCTTCGAGGCCGCCCTGCAGTAA  
gp160, gp41 (2565) <--\

005020-070500

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ATGGGCGCCCGCGCCAGCATCCTGCGCGGCGGCAAGCTGGACGCCTGGGAGCGCATCCGCCTGCGCCCCGG  
CGGCAAGAAGTGCTACATGATGAAGCACCTGGTGTGGGCCAGCCGCGAGCTGGAGAAGTTCGCCCTGAACC  
CCGGCCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATCCGCCAGCTGCACCCCGCCCTGCAGACCGGC  
AGCGAGGAGCTGAAGAGCCTGTTCAACACCGTGGCCACCCTGTACTGCGTGCACGAGAAGATCGAGGTGG  
CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAAGTGCCAGCAGAAGATCCAGCAGGCCG  
AGGCCGCCGACAAGGGCAAGGTGAGCCAGAACTACCCCATCGTGCAGAACCTGCAGGGCCAGATGGTGCAC  
CAGGCCATCAGCCCCCGCACCCCTGAACGCCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAGCCCCGAGGT  
GATCCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCCAGGACCTGAACACCATGCTGAACACCGTGG  
GCGGCCACCAGGCCGCCATGCAGATGCTGAAGGACACCATCAACGAGGAGGCCGCCGAGTGGGACCGCGTG  
CACCCCGTGACGCGCGGCCCATCGCCCCGGCCAGATGCGCGAGCCCCGCGGCAGCGACATCGCCGGCAC  
CACCAGCACCCCTGCAGGAGCAGATCGCCTGGATGACCAGCAACCCCCCATCCCCGTGGGCGACATCTACA  
AGCGCTGGATCATCCTGGGCCTGAACAAGATCGTGCGCATGTACAGCCCCGTGAGCATCCTGGACATCAAG  
CAGGGCCCCAAGGAGCCCTTCCGCGACTACGTGGACCGCTTCTTCAAGACCCTGCGCGCCGAGCAGAGCAC  
CCAGGAGGTGAAGAACTGGATGACCGACACCCTGCTGGTGCAGAACGCCAACCCCGACTGCAAGACCATCC  
TGCGCGCCCTGGGCCCCGCGGCCAGCCTGGAGGAGATGATGACCGCCTGCCAGGGCGTGGGCGGCCCCAGC  
CACAAAGGCCCGCGTGTGGCCGAGGCCATGAGCCAGGCCAACACCAGCGTGATGATGCAGAAGAGCAACTT  
CAAGGGCCCCCGCGCATCGTGAAGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCCGCAACTGCCGCG  
CCCCCGCAAGAAGGGCTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAG  
GCCAACTTCTGGGCAAGATCTGGCCCAGCCACAAGGGCCGCCCGGCAACTTCTGCAGAGCCGCCCGGA  
GCCACCGCCCCCCCCCGCGAGAGCTTCCGCTTCGAGGAGACCACCCCGGCCAGAAGCAGGAGAGCAAGG  
ACCGCGAGACCCTGACCAGCCTGAAGAGCCTGTTGCGCAACGACCCCTGAGCCAGTAA

Figure 5

Gsg\_AF110967\_BW\_opt  
 ATGGGCGCCCGCGCCAGCATCCTGCGCGGCGAGAAGCTGGACAAGTGGGAGATCCGCGCTGCGCCCCGG  
 CGGCAAGAAGCACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGCGAGCTGGAGGGCTTCGCCCTGAACC  
 CCGGCGCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATGAAGCAGCTGCAGCCCGCCCTGCAGACCGGC  
 ACCGAGGAGCTGCGCAGCCTGTACAACACCGTGGCCACCCTGTACTGCGTGCACGCCGGCATCGAGGTGCG  
 CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAAGAGTCAGCAGAAGACCCAGCAGGCCA  
 AGGAGGCCGACGGCAAGGTGAGCCAGAACTACCCCATCGTGCAGAACCTGCAGGGCCAGATGGTGCACCG  
 GCCATCAGCCCCCGCACCCCTGAACGCCCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAGCCCCGAGGTGAT  
 CCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAACACCATGCTGAACACCGTGGGCG  
 GCCACCAGGCCGCCATGCAGATGCTGAAGGACACCATCAACGAGGAGGCCGCCGAGTGGGACCGCCTGCAC  
 CCGTGCAGGCCGCCCGCCCTGGCCCCCGGCCAGATGCGCGACCCCCCGGCCAGCGACATCGCCGGCGCCAC  
 CAGCACCCCTGCAGGAGCAGATCGCCTGGATGACCAGCAACCCCCCGTGCCCGTGGGCGACATCTACAAGC  
 GCTGGATCATCCTGGGCCTGAACAAGATCGTGCCCATGTACAGCCCCGTGAGCATCCTGGACATCCGCCAG  
 GGCCCCAAGGAGCCCTTCCGCGACTACGTGGACCGCTTCTTCAAGACCCTGCGCGCCGAGCAGGCCACCCA  
 GGACGTGAAGAACTGGATGACCGAGACCCTGCTGGTGCAGAACGCCAACCCCGACTGCAAGACCATCCTGC  
 GCGCCCTGGGCCCCGGCGCCACCCTGGAGGAGATGATGACCGCCTGCCAGGGCGTGGGCGGCCCGGCCAC  
 AAGGCCCGCGTGCTGGCCGAGGCTGAGGCCAGGCCAACAGCGTGAACATCATGATGCAGAAGAGCAACTT  
 CAAGGGCCCCCGCGCAACGTGAAGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCAAGAAGTGGCGG  
 CCCCCGCAAGAAGGGCTGCTGGAAGTGCAGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAG  
 GCCAACTTCCTGGGCAAGATCTGGCCAGCCACAAGGGCCGCCCGGCAACTTCCTGCAGAACCGCAGCGA  
 GCCCGCGCCCCCACCCTGCCACCGCCCCCCCCGCGGAGAGCTTCCGCTTCGAGGAGACCACCCCGGCC  
 CCAAGCAGGAGCCCAAGGACCGCGAGCCCTACCGCGAGCCCTGACCGCCCTGCGCAGCCTGTTCGGCAGC  
 GGCCCCCTGAGCCAGTAA

Figure 6

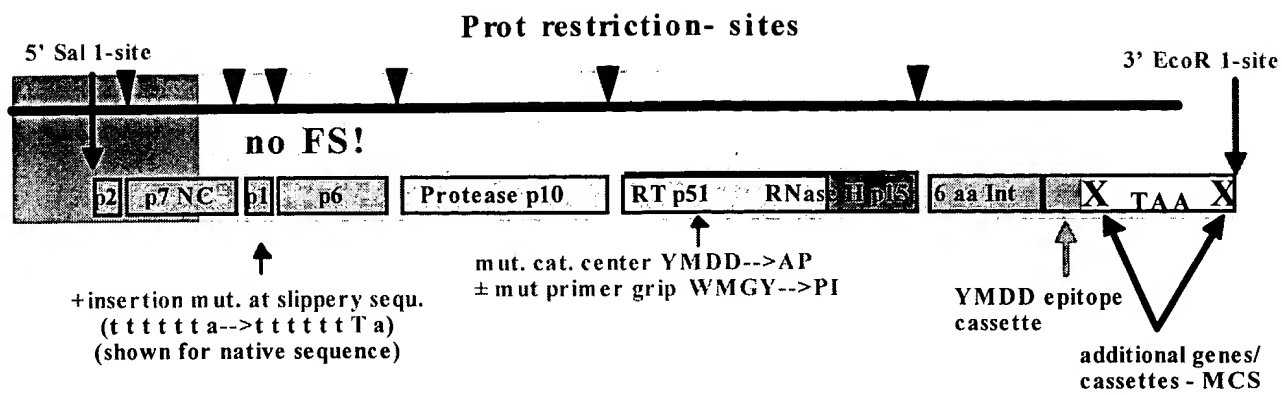


FIGURE 7

PR975(+) (SEQ ID NO:30)

GTCGACGCCACCATGGCCGAGGCCATGAGCCAGGCCACCAGCGCCAACATCCTGAT  
GCAGCGCAGCAACTTCAAGGGCCCCAAGCGCATCATCAAGTGCTTCAACTGCGGCAA  
GGAGGGCCACATCGCCCGCAACTGCCGCGCCCCCGCAAGAAGGGGCTGCTGGAAGT  
GCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCCAACTTCTTC  
CGCGAGGACCTGGCCTTCCCCCAGGGCAAGGCCCGCGAGTTCCCCAGCGAGCAGAA  
CCGCGCCAACAGCCCCACCAGCCGCGAGCTGCAGGTGCGCGGCGACAACCCCCGCA  
GCGAGGGCCGGCGCCGAGCGCCAGGGCACCTGAACTTCCCCCAGATCACCTGTGGC  
AGCGCCCCCTGGTGAGCATCAAGGTGGGCGGCCAGATCAAGGAGGGCCCTGCTGGAC  
ACCGGCGCCGACGACACCGTGCTGGAGGAGATGAGCCTGCCCCGCAAGTGGAAGCC  
CAAGATGATCGGCGGCATCGGCGGCTTCATCAAGGTGCGCCAGTACGACCAGATCCT  
GATCGAGATCTGCGGCAAGAAGGCCATCGGCACCGTGCTGATCGGCCCCACCCCCGT  
GAACATCATCGGCCGCAACATGCTGACCCAGCTGGGCTGCACCCTGAACTTCCCCAT  
CAGCCCCATCGAGACCGTGCCCGTGAAGCTGAAGCCCGGCATGGACGGCCCCAAGG  
TGAAGCAGTGGCCCCCTGACCGAGGAGAAGATCAAGGCCCTGACCGCCATCTGCGAG  
GAGATGGAGAAGGAGGGCAAGATCACCAAGATCGGCCCCGAGAACCCCTACAACAC  
CCCCGTGTTCGCCATCAAGAAGAAGGACAGCACCAAGTGGCGCAAGCTGGTGGACT  
TCCGCGAGCTGAACAAGCGCACCCAGGACTTCTGGGAGGTGCAGCTGGGCATCCCCC  
ACCCCGCCGGCCTGAAGAAGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCC  
TACTTCAGCGTGCCCCCTGGACGAGGACTTCCGCAAGTACACCGCCTTCACCATCCCC  
AGCATCAACAACGAGACCCCCGGCATCCGCTACCAGTACAACGTGCTGCCCCAGGGC  
TGGAAGGGCAGCCCCAGCATCTTCCAGAGCAGCATGACCAAGATCCTGGAGCCCTTC  
CGCGCCCCGCAACCCCGAGATCGTGATCTACCAGTACATGGACGACCTGTACGTGGGC  
AGCGACCTGGAGATCGGCCAGCACCGCGCCAAGATCGAGGAGCTGCGCAAGCACCT  
GCTGCGCTGGGGCTTCACCACCCCCGACAAGAAGCACCAAGGAGCCCCCCTTCCT  
GTGGATGGGCTACGAGCTGCACCCCCGACAAGTGGACCGTGACGCCATCGAGCTGCC  
CGAGAAGGAGAGCTGGACCGTGAACGACATCCAGAAGCTGGTGGGCAAGCTGAACT  
GGGCCAGCCAGATCTACCCCGGCATCAAGGTGCGCCAGCTGTGCAAGCTGCTGCGCG  
GCGCCAAGGCCCTGACCGACATCGTGCCCCTGACCGAGGAGGCCGAGCTGGAGCTG  
GCCGAGAACCGCGAGATCCTGCGCGAGCCCGTGACCGGCGTGTACTACGACCCAG  
CAAGGACCTGGTGGCCGAGATCCAGAAGCAGGGGCCACGACCAGTGGACCTACCAGA  
TCTACCAGGAGCCCTTCAAGAACCTGAAGACCGGCAAGTACGCCAAGATGCGCACCC  
GCCACACCAACGACGTGAAGCAGCTGACCGAGGGCCGTGCAGAAGATCGCCATGGA  
GAGCATCGTGATCTGGGGCAAGACCCCCAAGTTCCGCCTGCCATCCAGAAGGAGAC  
CTGGGAGACCTGGTGGACCGACTACTGGCAGGCCACCTGGATCCCCGAGTGGGAGTT  
CGTGAACACCCCCCCCCCTGGTGAAGCTGTGGTACCAGCTGGAGAAGGAGCCCATCAT  
CGGCGCCGAGACCTTCTACGTGGACGGCGCCGCCAACCGCGAGACCAAGATCGGCA  
AGGCCGGCTACGTGACCGACCGGGGCCGCGCAGAAGATCGTGAGCCTGACCGAGACC  
ACCAACCAGAAGACCGAGCTGCAGGCCATCCAGCTGGCCCTGCAGGACAGCGGCAG  
CGAGGTGAACATCGTGACCGACAGCCAGTACGCCCTGGGCATCATCCAGGCCAGCC  
CGACAAGAGCGAGAGCGAGCTGGTGAACCAGATCATCGAGCAGCTGATCAAGAAGG  
AGAAGGTGTACCTGAGCTGGGTGCCCGCCACAAGGGCATCGGCGGCAACGAGCAG  
ATCGACAAGCTGGTGAGCAAGGGCATCCGCAAGGTGCTGTTCTTGACGGCATCGAT  
GGCGGCATCGTGATCTACCAGTACATGGACGACCTGTACGTGGGCAGCGGCGGCCCT  
AGGATCGATTAAAAGCTTCCCGGGGCTAGCACCGGTGAATTC

FIGURE 8



PR975YM (SEQ ID NO:31)

GTCGACGCCACCATGGCCGAGGCCATGAGCCAGGCCACCAGCGCCAACATCCTGAT  
GCAGCGCAGCAACTTCAAGGGCCCCAAGCGCATCATCAAGTGCTTCAACTGCGGCAA  
GGAGGGCCACATCGCCCGCAACTGCCGCGCCCCCGCAAGAAGGGGCTGCTGGAAGT  
GCGGCAAGGAGGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCCAACTTCTTC  
CGCGAGGACCTGGCCTTCCCCCAGGGCAAGGCCCGCGAGTTCCCCAGCGAGCAGAA  
CCGCGCCAACAGCCCCACCAGCCGCGAGCTGCAGGTGCGCGGCGACAACCCCCGCA  
GCGAGGGCCGGCGCCGAGCGCCAGGGCACCTGAACTTCCCCCAGATCACCTGTGGC  
AGCGCCCCCTGGTGAGCATCAAGGTGGGCGGCCAGATCAAGGAGGGCCCTGCTGGAC  
ACCGGCGCCGACGACACCGTGCTGGAGGAGATGAGCCTGCCCGGCAAGTGGAAGCC  
CAAGATGATCGGCGGCATCGGCGGCTTCATCAAGGTGCGCCAGTACGACCAGATCCT  
GATCGAGATCTGCGGCAAGAAGGCCATCGGCACCGTGCTGATCGGCCCCACCCCCGT  
GAACATCATCGGCCGCAACATGCTGACCCAGCTGGGCTGCACCCTGAACTTCCCCAT  
CAGCCCCATCGAGACCGTGCCCGTGAAGCTGAAGCCCGGCATGGACGGCCCCAAGG  
TGAAGCAGTGGCCCCTGACCGAGGAGAAGATCAAGGCCCTGACCGCCATCTGCGAG  
GAGATGGAGAAGGAGGGCAAGATCACCAAGATCGGCCCGAGAACCCCTACAACAC  
CCCCGTGTTCCGCATCAAGAAGAAGGACAGCACCAAGTGCGCAAGCTGGTGGACT  
TCCGCGAGCTGAACAAGCGCACCCAGGACTTCTGGGAGGTGCAGCTGGGCATCCCC  
ACCCCGCCGGCCTGAAGAAGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCC  
TACTTCAGCGTGCCCCCTGGACGAGGACTTCCGCAAGTACACCGCCTTACCATCCCC  
AGCATCAACAACGAGACCCCCGGCATCCGCTACCAGTACAACGTGCTGCCCCAGGGC  
TGGAAGGGCAGCCCCAGCATCTTCCAGAGCAGCATGACCAAGATCCTGGAGCCCTTC  
CGCGCCCGCAACCCCGAGATCGTGATCTACCAGGCCCCCCTGTACGTGGGCAGCGAC  
CTGGAGATCGGCCAGCACCGCGCCAAGATCGAGGAGCTGCGCAAGCACCTGCTGCG  
CTGGGGCTTACCACCCCCGACAAGAAGCACCAAGGAGCCCCCTTCTGTGGAT  
GGGCTACGAGCTGCACCCCGACAAGTGACCGTGACGCCATCGAGCTGCCCCGAGA  
AGGAGAGCTGGACCGTGAACGACATCCAGAAGCTGGTGGGCAAGCTGAACTGGGCC  
AGCCAGATCTACCCCGGCATCAAGGTGCGCCAGCTGTGCAAGCTGCTGCGCGGCGCC  
AAGGCCCTGACCGACATCGTGCCCTGACCGAGGAGGCCGAGCTGGAGCTGGCCGA  
GAACCGCGAGATCCTGCGCGAGCCCGTGACGGCGTGTAACGACCCAGCAAGG  
ACCTGGTGGCCGAGATCCAGAAGCAGGGCCACGACCAAGTGACCTACCAGATCTAC  
CAGGAGCCCTTCAAGAACCTGAAGACCGGCAAGTACGCCAAGATGCGCACCGCCCA  
CACCAACGACGTGAAGCAGCTGACCGAGGCCGTGCAGAAGATCGCCATGGAGAGCA  
TCGTGATCTGGGGCAAGACCCCCAAGTTCCGCTGCCCATCCAGAAGGAGACCTGGG  
AGACCTGGTGGACCGACTACTGGCAGGCCACCTGGATCCCCGAGTGGGAGTTCGTGA  
ACACCCCCCCCCCTGGTGAAGCTGTGGTACCAGCTGGAGAAGGAGCCCATCATCGGCG  
CCGAGACCTTCTACGTGGACGGCGCCGCCAACC CGAGACCAAGATCGGCAAGGCC  
GGCTACGTGACCGACCGGGGGCCGGCAGAAGATCGTGAGCCTGACCGAGACCACCAA  
CCAGAAGACCGAGCTGCAGGCCATCCAGCTGGCCCTGCAGGACAGCGGCAGCGAGG  
TGAACATCGTGACCGACAGCCAGTACGCCCTGGGCATCATCCAGGCCAGCCCGACA  
AGAGCGAGAGCGAGCTGGTGAACCAGATCATCGAGCAGCTGATCAAGAAGGAGAAG  
GTGTACCTGAGCTGGGTGCCCGCCCACAAGGGCATCGGCGGCAACGAGCAGATCGA  
CAAGCTGGTGAAGGGCATCCGCAAGGTGCTGTTCTGGACGGCATCGATGGCG  
GCATCGTGATCTACCAGTACATGGACGACCTGTACGTGGGCAGCGGCGGCCCTAGGA  
TCGATTAAGGCTTCCCGGGGCTAGCACCGGTGAATTC

FIGURE 9

PR975YMWM (SEQ ID NO:32)

GTCGACGCCACCATGGCCGAGGCCATGAGCCAGGCCACCAGCGCCAACATCCTGAT  
GCAGCGCAGCAACTTCAAGGGCCCCAAGCGCATCATCAAGTGCTTCAACTGCGGCAA  
GGAGGGCCACATCGCCCGCAACTGCCGCGCCCCCGCAAGAAGGGCTGCTGGAAGT  
GCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCCAACTTCTTC  
CGCGAGGACCTGGCCTTCCCCCAGGGCAAGGCCCGCGAGTTCCCCAGCGAGCAGAA  
CCGCGCCAACAGCCCCACCAGCCGCGAGCTGCAGGTGCGCGGCGACAACCCCCGCA  
GCGAGGCCGCGCGCCGAGCGCCAGGGCACCCCTGAACTTCCCCCAGATCACCCCTGTGGC  
AGCGCCCCCTGGTGAGCATCAAGGTGGGCGGCCAGATCAAGGAGGCCCTGCTGGAC  
ACCGGCGCCGACGACACCGTGCTGGAGGAGATGAGCCTGCCCCGCAAGTGGAAGCC  
CAAGATGATCGGCGGCATCGGCGGCTTCATCAAGGTGCGCCAGTACGACCAGATCCT  
GATCGAGATCTGCGGCAAGAAGGCCATCGGCACCGTGCTGATCGGCCCCACCCCGT  
GAACATCATCGGCCGCAACATGCTGACCCAGCTGGGCTGCACCCCTGAACTTCCCCAT  
CAGCCCCATCGAGACCGTGCCCGTGAAGCTGAAGCCCGGCATGGACGGCCCCAAGG  
TGAAGCAGTGGCCCCCTGACCGAGGAGAAGATCAAGGCCCTGACCGCCATCTGCGAG  
GAGATGGAGAAGGAGGGCAAGATCACCAAGATCGGCCCCGAGAACCCCTACAACAC  
CCCCGTGTTCGCCATCAAGAAGAAGGACAGCACCAAGTGCGCAAGCTGGTGGACT  
TCCGCGAGCTGAACAAGCGCACCCAGGACTTCTGGGAGGTGCAGCTGGGCATCCCC  
ACCCCGCCGGCCTGAAGAAGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCC  
TACTTCAGCGTGCCCTGGACGAGGACTTCCGCAAGTACACCGCCTTACCATCCCC  
AGCATCAACAACGAGACCCCCGGCATCCGCTACCAGTACAACGTGCTGCCCCAGGGC  
TGGAAGGGCAGCCCCAGCATCTTCCAGAGCAGCATGACCAAGATCCTGGAGCCCTTC  
CGCGCCCGCAACCCCGAGATCGTGATCTACCAGGCCCCCTGTACGTGGGCAGCGAC  
CTGGAGATCGGCCAGCACCGCGCCAAGATCGAGGAGCTGCGCAAGCACCTGCTGCG  
CTGGGGCTTCACCACCCCCGACAAGAAGCACCAAGGAGCCCCCTTCCTGCCCAT  
CGAGCTGCACCCCGACAAGTGACCGTGACGCCATCGAGCTGCCCCGAGAAGGAGA  
GCTGGACCGTGAACGACATCCAGAAGCTGGTGGGCAAGCTGAACTGGGCCAGCCAG  
ATCTACCCCGGCATCAAGGTGCGCCAGCTGTGCAAGCTGCTGCGCGGCGCCAAGGCC  
CTGACCGACATCGTGCCCTGACCGAGGAGGCCGAGCTGGAGCTGGCCGAGAACCG  
CGAGATCCTGCGCGAGCCCGTGACGGCGTGTACTACGACCCAGCAAGGACCTGGT  
GGCCGAGATCCAGAAGCAGGGCCACGACCAAGTGGACCTACCAGATCTACCAGGAGC  
CCTTCAAGAACCTGAAGACCGGCAAGTACGCCAAGATGCGCACCGCCACACCAAC  
GACGTGAAGCAGCTGACCGAGGCCGTGCAGAAGATCGCCATGGAGAGCATCGTGAT  
CTGGGGCAAGACCCCCAAGTTCGCGCTGCCATCCAGAAGGAGACCTGGGAGACCT  
GGTGGACCGACTACTGGCAGGCCACCTGGATCCCCGAGTGGGAGTTCGTGAACACCC  
CCCCCTGGTGAAGCTGTGGTACCAGCTGGAGAAGGAGCCCATCATCGGCGCCGAG  
ACCTTCTACGTGGACGGCGCCGCAACCGCGAGACCAAGATCGGCAAGGCCGGCTA  
CGTGACCGACCGGGGCGGCAGAAGATCGTGAGCCTGACCGAGACCACCAACCAGA  
AGACCGAGCTGCAGGCCATCCAGCTGGCCCTGCAGGACAGCGGCAGCGAGGTGAAC  
ATCGTGACCGACAGCCAGTACGCCCTGGGCATCATCCAGGCCAGCCCGACAAGAG  
CGAGAGCGAGCTGGTGAACCAGATCATCGAGCAGCTGATCAAGAAGGAGAAGGTGT  
ACCTGAGCTGGGTGCCCCGCCACAAGGGCATCGGCGGCAACGAGCAGATCGACAAG  
CTGGTGAGCAAGGGCATCCGCAAGGTGCTGTTCTGGACGGCATCGATGGCGGCATC  
GTGATCTACCAGTACATGGACGACCTGTACGTGGGCAGCGGCGGCCCTAGGATCGAT  
TAAAAGCTTCCCGGGGCTAGCACCGGTGAATTC

FIGURE 10

1 TGGAAGGGTT AATTTACTCC AAGAAAAGGC AAGAAATCCT TGATTTGTGG GTCTATCACA  
61 CACAAGGCTT CTTCCCTGAT TGGCAAAACT ACACACCGGG GCCAGGGGTC AGATATCCAC  
121 TGACCTTTGG ATGGTGCTAC AAGCTAGTGC CAGTTGACCC AGGGGAGGTG GAAGAGGCCA  
181 ACGGAGGAGA AGACAACTGT TTGCTACACC CTATGAGCCA ACATGGAGCA GAGGATGAAG  
241 ATAGAGAAAGT ATTAAGTGG AAGTTTGACA GCCTCCTAGC ACGCAGACAC ATGGCCCGCG  
301 AGCTACATCC GGAGTATTAC AAAGACTGCT GACACAGAAG GGACTTTCCG CCTGGGACTT  
361 TCCACTGGGG CGTTCCGGGA GGTGTGGTCT GGGCGGGACT TGGGAGTGGT CAACCCTCAG  
421 ATGCTGCATA TAAGCAGCTG CTTTTCGCTT GTACTGGGTC TCTCTCGGTA GACCAGATCT  
481 GAGCCTGGGA GCCCTCTGGC TATCTAGGGA ACCCACTGCT TAAGCCTCAA TAAAGCTTGC  
541 CTTGAGTGCT TTAAGTAGTG TGTGCCCATC TGTTGTGTGA CTCTGGTAAC TAGAGATCCC  
601 TCAGACCCCTT TGTGGTAGTG TGGAAAATCT CTAGCAGTGG CGCCCGAACA GGGACCAGAA  
661 AGTGAAAGTG AGACCAGAGG AGATCTCTCG ACGCAGGACT CGGCTTGCTG AAGTGCACAC  
721 GGCAAGAGGC GAGAGGGGCG GCTGGTGAGT ACGCCAATTT TACTTGACTA GCGGAGGCTA  
781 GAAGGAGAGA GATGGGTGCG AGAGCGTCAA TATTAAGCGG CGGAAAATTA GATAAATGGG  
841 AAAGAATTAG GTTAAGGCCA GGGGAAAGA AACATTATAT GTTAAACAT CTAGTATGGG  
901 CAAGCAGGGA GCTGGAAAGA TTTGCACTTA ACCCTGGCCT GTTAGAAACA TCAGAAGGCT  
961 GTAAACAAAT AATAAACAG CTACAACCAG CTCTTCAGAC AGGAACAGAG GAACTTAGAT  
1021 CATTATTCAA CACAGTAGCA ACTCTCTATT GTGTACATAA AGGGATAGAG GTACGAGACA  
1081 CCAAGGAAGC CTTAGACAAG ATAGAGGAAG AACAAAACAA ATGTCAGCAA AAAGCACAAC  
1141 AGGCAAAAGC AGCTGACGAA AAGGTCAGTC AAAATTATCC TATAGTACAG AATGCCCAAG  
1201 GGCAATGGT ACACCAAGCT ATATCACCTA GAACATTGAA TGCATGGATA AAAGTAATAG  
1261 AGGAAAAGGC TTTCAATCCA GAGGAAATAC CCATGTTTAC AGCATTATCA GAAGGAGCCA  
1321 CCCACAAGA TTAAACACA ATGTTAAATA CAGTGGGGGG ACATCAAGCA GCCATGCAAA  
1381 TGTTAAAGA TACCATCAAT GAGGAGGCTG CAGAATGGGA TAGGACACAT CCAGTACATG  
1441 CAGGGCCTGT TGCACCAGGC CAGATGAGAG AACCAAGGGG AAGTGACATA GCAGGAACTA  
1501 CTAGTACCCT TCAGGAACAA ATAGCATGGA TGACAAGTAA TCCACCTATT CCAGTAGAAG  
1561 ACATCTATAA AAGATGGATA ATTCTGGGGT TAAATAAAAT AGTAAGAATG TATAGCCCTG  
1621 TTAGCATTTT GGACATAAAA CAAGGGCCAA AAGAACCCTT TAGAGACTAT GTAGACCGGT  
1681 TCTTTAAAC CTTAAGAGCT GAACAAGCTA CACAAGATGT AAAGAATTGG ATGACAGACA  
1741 CCTTGTTGGT CCAAATGCG AACCCAGATT GTAAGACCAT TTAAAGAGCA TTAGGACCAG  
1801 GGGCCTCATT AGAAGAAATG ATGACAGCAT GTCAGGGAGT GGGAGGACCT AGCCATAAAG  
1861 CAAGAGTGTT GGCTGAGGCA ATGAGCCAAG CAAACAGTAA CATACTAGTG CAGAGAAGCA  
1921 ATTTTAAAGG CTCTAACAGA ATTATTAAAT GTTTCAACTG TGGCAAAGTA GGGCACATAG  
1981 CCAGAAATTG CAGGGCCCTT AGGAAAAAGG GCTGTTGGAA ATGTGGACAG GAAGGACACC  
2041 AAATGAAAGA CTGTACTGAG AGGCAGGCTA ATTTTTTAGG GAAAATTTGG CTTTCCCACA  
2101 AGGGGAGGCC AGGGAATTTT CTCCAGAACA GACCAGAGCC AACAGCCCCA CCAGCAGAAC  
2161 CAACAGCCCC ACCAGCAGAG AGCTTCAGGT TCGAGGAGAC AACCCCCGTG CCGAGGAAGG  
2221 AGAAAGAGAG GGAACCTTTA ACTTCCCTCA AATCACTCTT TGGCAGCGAC CCCTTGTCTC  
2281 AATAAAAGTA GAGGGCCAGA TAAAGGAGGC TCTCTTAGAC ACAGGAGCAG ATGATACAGT  
2341 ATTAGAAGAA ATAGATTTGC CAGGGAAATG GAAACCAAAA ATGATAGGGG GAATTGGAGG  
2401 TTTTATCAAA GTAAGACAGT ATGATCAAAT ACTTATAGAA ATTTGTGGAA AAAAGGCTAT  
2461 AGGTACAGTA TTAGTAGGGC CTACACCAGT CAACATAATT GGAAGAAATC TGTTAACTCA  
2521 GCTTGGATGC ACACTAAATT TTCCAATTAG TCCTATTGAA ACTGTACCAG TAAATTTAAA  
2581 ACCAGGAATG GATGGCCCAA AGGTCAAACA ATGGCCATTG ACAGAAGAAA AAATAAAAGC  
2641 ATTAACAGCA ATTTGTGAGG AAATGGAGAA GGAAGGAAAA ATTACAAAAA TTGGGCCTGA  
2701 TAATCCATAT AACACTCCAG TATTTGCCAT AAAAAAGAAG GACAGTACTA AGTGGAGAAA  
2761 ATTAGTAGAT TTCAGGGAAC TCAATAAAAG AACTCAAGAC TTTTGGGAAG TTCAATTAGG  
2821 AATACCACAC CCAGCAGGAT TAAAAAAGAA AAAATCAGTG ACAGTGCTAG ATGTGGGGGA  
2881 TGCATATTTT TCAGTTCCTT TAGATGAAAG CTTCAGGAAA TATACTGCAT TCACCATACC

FIGURE 11

2941 TAGTATAAAC AATGAAACAC CAGGGATTAG ATATCAATAT AATGTGCTGC CACAGGGATG  
3001 GAAAGGATCA CCAGCAATAT TCCAGAGTAG CATGACAAAA ATCTTAGAGC CCTTCAGAGC  
3061 AAAAAATCCA GACATAGTTA TCTATCAATA TATGGATGAC TTGTATGTAG GATCTGACTT  
3121 AGAAATAGGG CAACATAGAG CAAAAATAGA AGAGTTAAGG GAACATTTAT TGAAATGGGG  
3181 ATTTACAACA CCAGACAAGA AACATCAAAA AGAACCCCCA TTTCTTTGGA TGGGGTATGA  
3241 ACTCCATCCT GACAAATGGA CAGTACAACC TATACTGCTG CCAGAAAAGG ATAGTTGGAC  
3301 TGTCAATGAT ATACAGAAGT TAGTGGGAAA ATTAACTGG GCAAGTCAGA TTTACCCAGG  
3361 GATTAAAGTA AGGCAACTCT GTAAACTCCT CAGGGGGGCC AAAGCACTAA CAGACATAGT  
3421 ACCACTAACT GAAGAAGCAG AATTAGAATT GGCAGAGAAC AGGGAAATTT TAAGAGAACC  
3481 AGTACATGGA GTATATTATG ATCCATCAAA AGACTTGATA GCTGAAATAC AGAAACAGGG  
3541 GCATGAACAA TGGACATATC AAATTTATCA AGAACCATT TAAAACTGA AAACAGGGAA  
3601 GTATGCAAAA ATGAGGACTA CCCACACTAA TGATGTAAAA CAGTTAACAG AGGCAGTGCA  
3661 AAAAAATAGC ATGGAAAGCA TAGTAATATG GGGAAAGACT CCTAAATTTA GACTACCCAT  
3721 CCAAAAAGAA ACATGGGAGA CATGGTGGAC AGACTATTGG CAAGCCACCT GGATCCCTGA  
3781 GTGGGAGTTT GTTAATACCC CTCCCCTAGT AAAATTATGG TACCAACTAG AAAAAGATCC  
3841 CATAGCAGGA GTAGAACTT TCTATGTAGA TGGAGCAACT AATAGGGAAG CTAAAATAGG  
3901 AAAAGCAGGG TATGTTACTG ACAGAGGAAG GCAGAAAATT GTTACTCTAA CTAACACAAC  
3961 AAATCAGAAG ACTGAGTTAC AAGCAATTCA GCTAGCTCTG CAGGATTCAG GATCAGAAGT  
4021 AAACATAGTA ACAGACTCAC AGTATGCATT AGGAATCATT CAAGCACAAC CAGATAAGAG  
4081 TGACTCAGAG ATATTTAACC AAATAATAGA ACAGTTAATA AACAAGGAAA GAATCTACCT  
4141 GTCATGGGTA CCAGCACATA AAGGAAATTGG GGGAAATGAA CAAGTAGATA AATTAGTAAG  
4201 TAAGGGAATT AGGAAAGTGT TGTTTCTAGA TGGAAATAGAT AAAGCTCAAG AAGAGCATGA  
4261 AAGGTACCAC AGCAATTGGA GAGCAATGGC TAATGAGTTT AATCTGCCAC CCATAGTAGC  
4321 AAAAGAAAATA GTAGCTAGCT GTGATAAATG TCAGCTAAAA GGGGAAGCCA TACATGGACA  
4381 AGTCGACTGT AGTCCAGGGA TATGGCAATT AGATTGTACC CATTTAGAGG GAAAAATCAT  
4441 CCTGGTAGCA GTCCATGTAG CTAGTGGCTA CATGGAAGCA GAGGTTATCC CAGCAGAAAC  
4501 AGGACAAGAA ACAGCATATT TTATATTAAA ATTAGCAGGA AGATGGCCAG TCAAAAGTAAT  
4561 ACATACAGAC AATGGCAGTA ATTTTACCAG TACTGCAGTT AAGGCAGCCT GTTGGTGGGC  
4621 AGGTATCCAA CAGGAATTTG GAATTCCTTA CAATCCCCAA AGTCAGGGAG TGGTAGAATC  
4681 CATGAATAAA GAATTAAAGA AAATAATAGG ACAAGTAAGA GATCAAGCTG AGCACCTTAA  
4741 GACAGCAGTA CAAATGGCAG TATTCATTCA CAATTTTAAA AGAAAAGGGG GAATTGGGGG  
4801 GTACAGTGCA GGGGAAAGAA TAATAGACAT AATAGCAACA GACATACAAA CTAAAAGATT  
4861 ACAAAAACAA ATTATAAGAA TTCAAAATTT TCGGGTTTAT TACAGAGACA GCAGAGACCC  
4921 TATTTTGAAA GGACCAGCCG AACTACTCTG GAAAGGTGAA GGGGTAGTAG TAATAGAAGA  
4981 TAAAGGTGAC ATAAAGGTAG TACCAAGGAG GAAAGCAAAA ATCATTAGAG ATTATGGAAA  
5041 ACAGATGGCA GGTGCTGATT GTGTGGCAGG TGGACAGGAT GAAGATTAGA GCATGGAATA  
5101 GTTTAGTAAA GCACCATATG TATATATCAA GGAGAGCTAG TGGATGGGTC TACAGACATC  
5161 ATTTTGAAAAG CAGACATCCA AAAGTAAGTT CAGAAGTACA TATCCCATTA GGGGATGCTA  
5221 GATTAGTAAT AAAAACATAT TGGGGTTTGC AGACAGGAGA AAGAGATTGG CATTTGGGTC  
5281 ATGGAGTCTC CATAGAAATGG AGACTGAGAG AATACAGCAC ACAAGTAGAC CCTGACCTGG  
5341 CAGACCAGCT AATTCACATG CATTATTTTG ATTGTTTTTAC AGAATCTGCC ATAAGACAAG  
5401 CCATATTAGG ACACATAGTT TTTCCTAGGT GTGACTATCA AGCAGGACAT AAGAAGGTAG  
5461 GATCTCTGCA ATACTTGCCA CTGACAGCAT TGATAAAACC AAAAAAGAGA AAGCCACCTC  
5521 TGCCTAGTGT TAGAAAATTA GTAGAGGATA GATGGAACGA CCCCAGAAG ACCAGGGGCC  
5581 GCAGAGGGAA CCATACAATG AATGGACACT AGAGATTCTA GAAGAACTCA AGCAGGAAGC  
5641 TGTCAGACAC TTTCCTAGAC CATGGCTCCA TAGCTTAGGA CAATATATCT ATGAAACCTA  
5701 TGGGGATACT TGGACGGGAG TTGAAGCTAT AATAAGAGTA CTGCAACAAC TACTGTTTAT  
5761 TCATTTTCTA ATTTGGATGCC AACATAGCAG AATAGGCATC TTGCGACAGA GAAGAGCAAG  
5821 AAATGGAGCC AGTAGATCCT AAATAAAGC CCTGGAACCA TCCAGGAAGC CAACCTAAAA  
5881 CAGCTTGTA TAATTGCTTT TGCAAACACT GTAGCTATCA TTGTCTAGTT TGCTTTTCTA

FIGURE 11

5941 CAAAAGGTTT AGGCATTTCC TATGGCAGGA AGAAGCGGAG ACAGCGACGA AGCGCTCCTC  
6001 CAAGTGGTGA AGATCATCAA AATCCTCTAT CAAAGCAGTA AGTACACATA GTAGATGTAA  
6061 TGGTAAGTTT AAGTTTATTT AAAGGAGTAG ATTATAGATT AGGAGTAGGA GCATTGATAG  
6121 TAGCACTAAT CATAGCAATA ATAGTGTGGA CCATAGCATA TATAGAATAT AGGAAATTGG  
6181 TAAGACAAAA GAAAAATAGAC TGGTTAATTA AAAGAATTAG GGAAAGAGCA GAAGACAGTG  
6241 GCAATGAGAG TGATGGGGAC ACAGAAGAAT TGTCAACAAT GGTGGATATG GGGCATCTTA  
6301 GGCTTCTGGA TGCTAATGAT TTGTAACACG GAGGACTTGT GGGTCACAGT CTACTATGGG  
6361 GTACCTGTGT GGAGAGAAGC AAAAACTACT CTATTCTGTG CATCAGATGC TAAAGCATAT  
6421 GAGACAGAAG TGCATAATGT CTGGGCTACA CATGCTTGTG TACCCACAGA CCCCACCCCA  
6481 CAAGAAATAG TTTTGGGAAA TGTAACAGAA AATTTTAATA TGTGGAAAAA TAACATGGCA  
6541 GATCAGATGC ATGAGGATAT AATCAGTTTA TGGGATCAAA GCCTAAAGCC ATGTGTAAAG  
6601 TTGACCCAC TCTGTGTCAC TTTAACTGT ACAGATACAA ATGTTACAGG TAATAGAAGT  
6661 GTTACAGGTA ATACAAATGA TACCAATATT GCAAAATGCTA CATATAAGTA TGAAGAAATG  
6721 AAAAATTGCT CTTTCAATGC AACCACAGAA TTAAGAGATA AGAAACATAA AGAGTATGCA  
6781 CTCTTTTATA AACTTGATAT AGTACCACTT AATGAAAATA GTAACAACCTT TACATATAGA  
6841 TTAATAAATT GCAATACCTC AACCATAACA CAAGCCTGTC CAAAGGTCTC TTTTGACCCG  
6901 ATTCCATATC ATTACTGTGC TCCAGCTGAT TATGCGATTG TAAAGTGTA TAATAAGACA  
6961 TTCAATGGGA CAGGACCATG TTATAATGTC AGCACAGTAC AATGTACACA TGGAATTAAG  
7021 CCAGTGGTAT CAACTCAACT ACTGTAAAT GGTAGTCTAG CAGAAGAAGG GATAATAATT  
7081 AGATCTGAAA ATTTGACAGA GAATACCAA ACAATAATAG TACATCTTAA TGAATCTGTA  
7141 GAGATTAATT GTACAAGGCC CAACAATAAT ACAAGGAAAA GTGTAAGGAT AGGACCAGGA  
7201 CAAGCATTTCT ATGCAACAAA TGACGTAATA GGAAACATAA GACAAGCACA TTGTAACATT  
7261 AGTACAGATA GATGGAATAA AACTTTACAA CAGGTAATGA AAAAATTAGG AGAGCATTTC  
7321 CCTAATAAAA CAATAAAATT TGAACCACAT GCAGGAGGGG ATCTAGAAAT TACAATGCAT  
7381 AGCTTTAATT GTAGAGGAGA ATTTTCTAT TGCAATACAT CAAACCTGTT TAATAGTACA  
7441 TACTACCTTA AGAATGGTAC ATACAAATAC AATGGTAATT CAAGCTTACC CATCACACTC  
7501 CAATGCAAAA TAAAACAAAT TGTACGCATG TGGCAAGGGG TAGGACAAGC AATGTATGCC  
7561 CCTCCCATTG CAGGAAACAT AACATGTAGA TCAAACATCA CAGGAATACT ATTGACACGT  
7621 GATGGGGGAT TTAACAACAC AAACAACGAC ACAGAGGAGA CATTAGACC TGGAGGAGGA  
7681 GATATGAGGG ATAAGTGGAG AAGTGAATTA TATAAATATA AAGTGGTAGA AATTAAGCCA  
7741 TTGGGAATAG CACCCACTAA GGCAAAAAGA AGAGTGGTGC AGAGAAAAAA AAGAGCAGTG  
7801 GGAATAGGAG CTGTGTTCTT TGGGTTCTTG GGAGCAGCAG GAAGCACTAT GGGCGCAGCG  
7861 TCAATAACGC TGACGGTACA GGCCAGACAA CTGTTGTCTG GTATAGTGCA ACAGCAAAGC  
7921 AATTGCTGA AGGCTATAGA GCGCAACAG CATATGTTGC AACTCACAGT CTGGGGCATT  
7981 AAGCAGCTCC AGGCGAGAGT CCTGGCTATA GAAAGATACC TAAAGGATCA ACAGCTCCTA  
8041 GGGATTGGG GCTGCTCTGG AAGACTCATC TGCACCACTG CTGTGCCTTG GAACTCCAGT  
8101 TGGAGTAATA AATCTGAAGC AGATATTTGG GATAACATGA CTTGGATGCA GTGGGATAGA  
8161 GAAATTAATA ATTACACAGA AACAATATTC AGGTTGCTTG AAGACTCGCA AAACCAGCAG  
8221 GAAAAGAATG AAAAAGATTT ATTAGAATTG GACAAGTGGA ATAATCTGTG GAATTGGTTT  
8281 GACATATCAA ACTGGCTGTG GTATATAAAA ATATTCATAA TGATAGTAGG AGGCTTGATA  
8341 GGTTTAAGAA TAATTTTTCG TGTGCTCTCT ATAGTGAATA GAGTTAGGCA GGGATACTCA  
8401 CCTTTGTCAT TTCAGACCTT TACCCCAAGC CCGAGGGGAC TCGACAGGCT CGGAGGAATC  
8461 GAAGAAGAAG GTGGAGAGCA AGACAGAGAC AGATCCATAC GATTGGTGAG CGGATTCTTG  
8521 TCGCTTGCC TGGACGATCT GCGGAGCCTG TGCCTCTTCA GCTACCACCG CTTGAGAGAC  
8581 TTCATATTAA TTGCAGTGAG GGCAGTGGA CTTCTGGGAC ACAGCAGTCT CAGGGGACTA  
8641 CAGAGGGGGT GGGAGATCCT TAAGTATCTG GGAAGTCTTG TGCAGTATTG GGGTCTAGAG  
8701 CTAAAAAAGA GTGCTATTAG TCCGCTTGAT ACCATAGCAA TAGCAGTAGC TGAAGGAACA  
8761 GATAGGATTA TAGAATTGGT ACAAAGAATT TGTAAGAGCTA TCCTCAACAT ACCTAGGAGA  
8821 ATAAGACAGG GCTTTGAAGC AGCTTTGCTA TAAAATGGGA GGCAAGTGGT CAAAACGCAG  
8881 CATAGTTGGA TGGCCTGCAG TAAGAGAAAG AATGAGAAGA ACTGAGCCAG CAGCAGAGGG  
8941 AGTAGGAGCA GCGTCTCAAG ACTTAGATAG ACATGGGGCA CTTACAAGCA GCAACACACC

FIGURE 11

9001	TGCTACTAAT	GAAGCTTGTG	CCTGGCTGCA	AGCACAAGAG	GAGGACGGAG	ATGTAGGCTT
9061	TCCAGTCAGA	CCTCAGGTAC	CTTTAAGACC	AATGACTTAT	AAGAGTGCAG	TAGATCTCAG
9121	CTTCTTTTFA	AAAGAAAAAG	GGGGACTGGA	AGGGTTAATT	TACTCTAGGA	AAAGGCAAGA
9181	AATCCTTGAT	TTGTGGGTCT	ATAACACACA	AGGCTTCTTC	CCTGATTGGC	AAAAC'TACAC
9241	ATCGGGGCCA	GGGGTCCGAT	TCCCACTGAC	CTTTGGATGG	TGCTTCAAGC	TAGTACCAGT
9301	TGACCCAAGG	GAGGTGAAAAG	AGGCCAATGA	AGGAGAAGAC	AACTGTTTGC	TACACCCTAT
9361	GAGCCAACAT	GGAGCAGAGG	ATGAAGATAG	AGAAGTATTA	AAGTGGAAGT	TTGACAGCCT
9421	TCTAGCACAC	AGACACATGG	CCC'CGAGCT	ACATCCGGAG	TATTACAAAG	ACTGCTGACA
9481	CAGAAGGGAC	TTTCCG'CTG	GGACTTTCCA	CTGGGGCGTT	CCGGGAGGTG	TGGTCTGGGC
9541	GGGACTTGGG	AGTGGTCA'CC	CTCAGATGCT	GCATATAAGC	AGCTGCTTTT	CGCTTGTACT
9601	GGGTCTCTCT	CGGTAGACCA	GATCTGAGCC	TGGGAGCTCT	CTGGCTATCT	AGGGAACCCA
9661	CTGCTTAGGC	CTCAATAAAAG	CTTGCCTTGA	GTGCTCTAAG	TAGTGTGTGC	CCATCTGTTG
9721	TGTGACTCTG	GTA'ACTAGAG	ATCCCTCAGA	CCCTTTGTGG	TAGTGTGGAA	AATCTCTAGC
9781	A					

FIGURE 11

SEQ ID NO:34

GCTGAGGCAATGAGCCAAGCAACCAGCGCAAACATACTGATGCAGAGAAGCAATT  
CAAAGGCCCTAAAAGAATTATTAATGTTTCAACTGTGGCAAGGAAGGGCACATAG  
CTAGAAATTGTAGGGCCCCTAGGAAAAAAGGCTGTTGGAAATGTGGAAAGGAAGGA  
CACCAAATGAAAGACTGTACTGAGAGGCAGGCTAA

FIGURE 12

005020-00000000

975Pol wt until 6aa Int: (SEQ ID NO:35)

TTTTTTAGGGAAGATTTGGCCTTCCCACAAGGGAAGGCCAGGGAATTTCCCTTCAGAA  
CAGAACAGAGCCAACAGCCCCACCAGCAGAGAGCTTCAAGTTCGAGGAGACAACCC  
CCGCTCCGAAGCAGGAGCCGAAAGACAGGGAACCCTTAATTTCCCTCAAATCACTCT  
TTGGCAGCGACCCCTTGTCTCAATAAAAAGTAGGGGGTCAAATAAAGGAGGCTCTCTT  
AGACACAGGAGCTGATGATACAGTATTAGAAGAAATGAGTTTGCCAGGAAAATGGA  
AACCAGAAAATGATAGGAGGAATTGGAGGTTTTATCAAAGTAAGACAGTATGATCAA  
ATACTTATAGAAATTTGTGGAAAAAAGGCTATAGGTACAGTATTAATAGGACCTACA  
CCTGTCAACATAATTGGAAGGAATATGTTGACTCAGCTTGGATGCACACTAAATTTT  
CCAATTAGTCCCATTTGAACTGTGCCAGTAAAATTAAGCCAGGAATGGATGGCCCA  
AAGGTTAAACAATGGCCATTGACAGAAGAGAAAATAAAGCATTAAACAGCAATTTG  
TGAAGAAATGGAGAAAGAAGGAAAAATTACAAAAATTGGGCCTGAAAATCCATATA  
ACACTCCAGTATTTGCCATAAAAAAGAAGGACAGTACTAAGTGGAGAAAGTTAGTA  
GATTCAGGGAACCTAATAAAAAGAACTCAAGACTTTTGGGAAGTTCAATTAGGAATA  
CCACACCCAGCAGGGTTAAAAAAGAAAAAATCAGTGACAGTACTGGATGTGGGGGA  
TGCATATTTTTTCAGTTCCTTTAGATGAGGACTTCAGGAAATATACTGCATTACCCATA  
CCTAGTATAAACAATGAAACACCAGGGATTAGATATCAATATAATGTGCTTCCACAG  
GGATGGAAAGGATCACCATCAATATTCCAGAGTAGCATGACAAAAATCTTAGAGCC  
CTTTAGAGCAAGAAATCCAGAAATAGTCATCTATCAATATATGGATGACTTGTATGT  
AGGATCTGACTTAGAAATAGGGCAACATAGAGCAAAAAATAGAGGAGTTAAGAAAAAC  
ATCTGTAAAGGTGGGGATTTACCACACCGGACAAGAAACATCAGAAAGAACCCCCA  
TTTCTTTGGATGGGGTATGAACTCCATCCTGACAAATGGACAGTACAGCCTATAGAG  
TTGCCAGAAAAGGAAAGCTGGACTGTCAATGATATACAGAAGTTAGTGGGAAAATT  
AAATTGGGCCAGTCAGATTTACCCAGGAATTAAGTAAGGCAACTTTGTAACTCCT  
TAGGGGGGCCAAAGCACTAACAGATATAGTACCACTAACTGAAGAAGCAGAATTAG  
AATTGGCAGAGAACAGGGAAATTCTAAGAGAACCAGTACATGGAGTATATTATGAC  
CCATCAAAAGACTTGGTAGCTGAAATACAGAAACAGGGGCATGACCAATGGACATA  
TCAAATTTACCAAGAACCATTCAAAAACCTGAAAACAGGGAAGTATGCAAAAATGA  
GGACTGCCCACACTAATGATGTAAACAGTTAACAGAGGCAGTGCAAAAAATAGCT  
ATGGAAAGCATAGTAATATGGGGAAAGACTCCTAAATTTAGACTACCCATCCAAAA  
AGAAACATGGGAGACATGGTGGACAGACTATTGGCAAGCCACCTGGATTCTCTGAGT  
GGGAGTTTGTAAATACCCCTCCCTTAGTAAAATTATGGTACCAGCTAGAGAAAGAAC  
CCATAATAGGAGCAGAACTTTCTATGTAGATGGAGCAGCTAATAGGGAACTAAA  
ATAGGAAAAGCAGGGTATGTTACTGACAGAGGAAGGCAGAAAATTGTTTCTCTAAC  
AGAAACAACAAATCAGAAGACTGAATTACAAGCAATTCAGCTAGCTTTGCAAGATT  
AGGATCAGAAGTAAACATAGTAACAGACTCACAGTATGCATTAGGAATCATTCAAG  
CACAACCAGATAAGAGTGAATCAGAGTTAGTCAACCAAATAATAGAACAATTAATA  
AAAAAGGAAAAGGTCTACCTGTCATGGGTACCAGCACATAAAGGAATTGGAGGAAA  
TGAACAAATAGATAAATTAGTAAGTAAGGGAATCAGGAAAGTGCTGTTTCTAGATG  
GAATAGAT

FIGURE 13



SEQ ID NO:36

GGCGGCATCGTGATCTACCAGTACATGGACGACCTGTACGTGGGCAGCGGCG  
GC

FIGURE 14

GGCGGCATCGTGATCTACCAGTACATGGACGACCTGTACGTGGGCAGCGGCG  
GC

GGIVYQYMDDL YVGS GG

[illegible]

TGGAAGGGTTAATTTACTCCAGGAAAAGGCAAGAGATCCTTGATTTATGGGTCTATC  
ACACACAAGGCTACTTCCCTGATTGGCAAACTACACACCGGGACCAGGGGTCAGA  
TATCCACTGACCTTTGGATGGTGCTTCAAGCTAGTGCCAGTTGACCCAAGGGAAGTA  
GAAGAGGCCAACGGAGGAGAAGACAACCTGTTTGCTACACCCTATGAGCCAGTATGG  
AATGGATGATGAACACAAAGAAGTGTTACAGTGGAAGTTTGACAGCAGCCTAGCAC  
GCAGACACCTGGCCCGCGAGCTACATCCGGATTATTACAAAGACTGCTGACACAGA  
AGGGACTTTCCGCCTGGGACTTTCCACTGGGGCGTTCCAGGGGGAGTGGTCTGGGCG  
GGACTGGGAGTGGCCAGCCCTCAGATGCTGCATATAAGCAGCGGCTTTTCGCCTGTA  
CTGGGTCTCTCTAGGTAGACCAGATCCGAGCCTGGGAGCTCTCTGTCTATCTGGGGA  
ACCCACTGCTTAGGCCTCAATAAAGCTTGCCCTGAGTGCTCTAAGTAGTGTGTGCCC  
ATCTGTTGTGTGACTCTGGTAACTCTGGTAACTAGAGATCCCTCAGACCCTTTGTGGT  
AGTGTGGAAAATCTCTAGCAGTGGCGCCCGAACAGGGACTTGAAAGCGAAAGTGAG  
ACCAGAGAAGATCTCTCGACGCAGGACTCGGCTTGCTGAAGTGCACTCGGCAAGAG  
GCGAGGGGGGCGACTGGTGAGTACGCCAAAATTTTTTTGACTAGCGGAGGCTAGA  
AGGAGAGAGATGGGTGCGAGAGCGTCAATATTAAGAGGGGGAAAATTAGACAAAT  
GGGAAAAAATTAGGTTACGGCCAGGGGGGAGAAAACACTATATGCTAAAACACCTA  
GTATGGGCAAGCAGAGAGCTGGAAAGATTTGCAGTTAACCTGGCCTTTTAGAGAC  
ATCAGACGGATGTAGAC AAATAATAAAACAGCTACAACCAGCTCTTCAGA  
CAGGAACAGAGGAAATTAGATCATTATTTAACACAGTAGCAACTCTCTATTGTGTAC  
ATAAAGGGATAGATGTACGAGACACCAAGGAAGCCTTAGACAAGATAGAGGAGGA  
ACAAAACAAATGTCAGCAAAAAACACAGCAGGCGGAAGCGGCTGACAAAAGGTC  
AGTCAAAATTATCCTATAGTGCAGAACCTCCAAGGGCAAATGGTACACCAGGCCAT  
ATCACCTAGAACCTTGAATGCATGGGTAAAAGTAATAGAGGAGAAGGCTTTTAGCC  
CAGAGGTAATACCCATGTTTACAGCATTATCAGAAGGAGCCACCCACAAGATTTA  
AACACCATGTTTAAATACAGTGGGGGGACATCAAGCAGCCATGCAAATGTTAAAAG  
ATACCATCAATGAGGAGGCTGCAGAATGGGATAGGTTACATCCAGTACATGCAGGG  
CCTGTTGCACCAGGCCAGATGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTA  
CTAGTACCCTTCAAGAACAAATAGCATGGATGACAAGTAACCCACCTATCCCAGTA  
GGGGACATCTATAAAAGGTGGATAATTCTGGGGTTAAATAAAATAGTAAGAATGTA  
CAGCCCTGTCAGCATTTTAGACATAAAACAAGGACCAAGGAACCCTTTAGAGACT  
ATGTAGACCGGTTCTTCAAACTTTAAGAGCTGAACAATCTACACAAGAGGTAAAA  
AATTGGATGACAGACACCTTGTTAGTCCAAAATGCGAACCAGATTGTAAGACCATT  
TTAAGAGCATTAGGACCAGGGGCTTCATTAGAAGAAATGATGACAGCATGTCAGGG  
AGTGGGAGGACCTAGCCACAAAGCAAGAGTTTTGGCTGAGGCAATGAGCCAAGCAA  
ACAATACAAGTGTAATGATACAGAAAAGCAATTTTAAAGGCCCTAGAAGAGCTGTT  
AAATGTTTCAACTGTGGCAGGGAAGGGCACATAGCCAGGAATTGCAGGGCCCCCTAG  
GAAAAGGGGCTGTTGGAAATGTGGAAAGGAAGGACACCAAATGAAAGACTGTACT  
GAGAGGCAGGCTAATTTTTTAGGGAAAATTTGGCCTTCCCACAAGGGGAGGCCAGG  
GAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCCACCACTAGAACCAACAGCCC  
CACCAGCAGAGAGCTTCAAGTTCAAGGAGACTCCGAAGCAGGAGCCGAAAGACAG  
GGAACCTTTAACTTCCCTCAAATCACTCTTTGGCAGCGACCCCTTGTCTCAATAAAA

FIGURE 16

GTAGCGGGCCAAACAAAGGAGGCTCTTTTAGATACAGGAGCAGATGATACAGTACT  
 AGAAGAAATAAACTTGCCAGGAAAATGGAAACCAAAAATGATAGGAGGAATTGGA  
 GGTTTTATCAAAGTAAGACAGTATGATCAAATACTTATAGAAATTTGTGGAAAAAGG  
 GCTATAGGTACAGTATTAGTAGGACCTACACCTGTCAACATAATTGGAAGAAATCTG  
 TTGACTCAGCTTGATGCACACTAAATTTTCCAATTAGCCCCATTGAACTGTACCA  
 GTAAAATTAAGCCAGGAATGGATGGCCCAAAGGTTAAACAATGGCCATTGACAGA  
 AGAAAAAATAAAAGCATTAAACAGAAATTTGTGAGGAAATGGAGAAGGAAGGAAAA  
 ATTACAAAAATTGGGCCTGAAAATCCATATAACACTCCAGTATTTGCCATAAAGAAG  
 AAGGACAGTACAAAGTGGAGAAAATTAGTAGATTTTCAGGGAAGTCAATAAAAGAAC  
 TCAAGACTTTTGGGAAGTCCAATTAGGAATACCCACCCAGCAGGGTTAAAAAAGA  
 AAAAATCAGTGACAGTACTGGATGTGGGAGATGCATATTTTTCAGTCCCTTTAGATG  
 AGAGCTTCAGAAAATATACTGCATTCACCATACCTAGTATAAACAATGAAACACCA  
 GGGATTAGATATCAATATAATGTTCTTCCACAGGGATGGAAAGGATCACCAGCAA  
 TATTCCAGAGTAGCATGACAAGAATCTTAGAGCCCTTTAGAACACAAAACCCAGAA  
 GTAGTTATCTATCAATATATGGATGACTTATATGTAGGATCTGACTTAGAAATAGGG  
 CAACATAGAGCAAAAATAGAGGAGTTAAGAGGACACCTATTGAAATGGGGATTTAC  
 CACACCAGACAAGAAACATCAGAAAGAACCCCCATTTCTTTGGATGGGGTATGAAC  
 TCCATCCTGACAAATGGACAGTACAGCCTATACAGCTGCCAGAAAAGGAGAGCTGG  
 ACTGTCAATGATATACAGAAGTTAGTGGGAAAGTTAAACTGGGCAAGTCAGATTTA  
 CCCAGGGATTAAAGTAAGGCAACTGTGTAAACTCCTTAGGGGAGCCAAAGCACTAA  
 CAGACATAGTGCCACTGACTGAAGAAGCAGAATTAGAATTGGCTGAGAACAGGGA  
 AATTCTAAAAGAACCAGTACATGGAGTATATTATGACCCATCAAAGATTTAATAG  
 CTGAAATACAGAAACAGGGGAATGACCAATGGACATATCAAATTTACCAAGAACC  
 ATTTAAAAATCTGAGAACAGGAAAGTATGCAAAAATGAGGACTGCCCACACTAATG  
 ATGTGAAACAGTTAGCAGAGGCAGTGCAAAAGATAACCCAGGAAAGCATAGTAATA  
 TGGGGAAAAACTCCTAAATTTAGACTACCCATCCCAAAAGAAACATGGGAGACATG  
 GTGGTCAGACTATTGGCAAGCCACCTGGATTCCTGAGTGGGAGTTTGTCAATACCCC  
 TCCCCTAGTAAAATTGTGGTACCAGCTGGAAAAAGAACCCATAGTAGGGGCAGAAA  
 CTTTCTATGTAGATGGAGCAGCCAATAGGGAACTAAAATAGGAAAAGCAGGGTAT  
 GTCCTGACAAAGGAAGGCAGAAAGTTGTTTCCTTCACTGAAACAACAAATCAGAA  
 GACTGAATTACAAGCAATTCAGCTAGCTTTGCAGGATTCAGGGCCAGAAGTAAACA  
 TAGTAACAGACTCACAGTATGCATTAGGAATCATTCAAGCACAACCAGATAAGAGT  
 GAATCAGAATTAGTCAGTCAAATAATAGAACAGTTGATAAAAAAGGAAAAAGTCTA  
 CCTATCATGGGTACCAGCACATAAAGGAATTGGAGGAAATGAACAAGTAGACAAAT  
 TAGTAAGTAGTGGAATCAGAAAAGTACTGTTTCTAGATGGAATAGATAAAGCTCAA  
 GAAGAGCATGAAAAATATCACAGCAATTGGAGAGCAATGGCTAGTGAGTTTAATCT  
 GCCACCCATAGTAGCAAAGGAAATAGTAGCCAGCTGTGATAAATGTCAGCTAAAAG  
 GGAAGCCATGCATGGACAAGTCGACTGTAGTCCAGGAATATGGCAATTAGACTGT  
 ACACATTTAGAAGGAAAAATCATCCTAGTAGCAGTCCATGTAGCCAGTGGCTACAT  
 GGAAGCAGAGGTTATCCCAGCAGAAACAGGACAAGAAACAGCATACTTTATACTAA  
 AATTAGCAGGAAGATGGCCAGTCAAAGTAATACATACAGATAATGGCAGTAATTC  
 ACCAGTACCGCAGTTAAGGCAGCCTGTTGGTGGGCAGATATCCAACGGGAATTTGG  
 AATCCCTACAATCCCCAAAGTCAAGGAGTAGTAGAATCCATGAATAAAGAATTAA

FIGURE 16

AGAAAATCATAGGGCAAGTAAGAGATCAAGCTGAGCACCTTAAGACAGCAGTACAA  
 ATGGCAGTATTCATTACAAATTTTAAAAGAAAAGGGGGGATTGGGGGGTACAGTGC  
 AGGGGAGAGAATAATAGACATAATAGCATCAGACATACAACTAAAGAATTACAAA  
 AACAAATTATAAAAATTCAAAATTTTCGGGTTTATTACAGAGACAGCAGAGACCCTA  
 TTTGGAAAGGACCAGCCAACTACTCTGGAAAGGTGAAGGGGCAGTAGTAATACAA  
 GATAATAGTGATATAAAGGTAGTACCAAGAAGGAAAGCAAAAATCATTAAAGGACTA  
 TGGAAAACAGATGGCAGGTGCTGATTGTGTGGCAGGTAGACAGGATGAAGATTAGA  
 ACATGGCACAGTTTAGTAAAGCACCATATGTATGTTTTGAGGAGAGCTGATGGATGG  
 TTCTACAGACATCATTATGAAAGCAGACACCCAAAAGTAAGTTCAGAAAGTACACAT  
 CCCATTAGGAGATGCCAGGTAGTAATAAAAACATATTGGGGTCTGCAGACAGGAG  
 AAAGAGCTTGGCATTGTGGGTCACGGAGTCTCCATAGAATGGAGATTGAGAAGATAT  
 AGCACACAAGTAGACCCTGACCTGACAGACCAACTAATTCATATGCATTATTTTGT  
 TGTTTTGCAGAATCTGCCATAAGGAAAGCCATACTAGGACAGATAGTTAGCCCTAA  
 GTGTGACTATCAAGCAGGACATAACAAGGTAGGATCTCTACAATACTTGGCACTGA  
 CAGCATTGATAAAACCAAAAAAGATAAAGCCACCTCTGCCTAGTGTTAGGAAATTA  
 GTAGAGGATAGATGGAACAAGCCCCAGAAGACCAGGGGGCCGCAGAGGGAACCATA  
 CAATGAATGGACACTAGAGCTTTTAGAAGAAGTCAAGCAGGAAGCTGTCAGACACT  
 TTCCTAGACCATGGCTCCATAACTTAGGACAACATATCTATGAAACCTATGGAGATA  
 CTTGGACAGGAGTTGAAGCAATAATAAGAATCCTGCAACAATTACTGTTTATTCATT  
 TCAGGATTGGGTGCCATCATAGCAGAATAGGCATTTTGCACAGAGAAGAGCAAGA  
 AATGGAGCCAATAGATCCTAACCTAGAACCCTGGAACCATCCAGGAAGTCAGCCTA  
 AAAGTCTTGTAATGGGTGTTACTGTAAACGTTGCAGCTATCATTGTCTAGTTTGCTT  
 TCAGAAAAAAGGCTTAGGCATTTACTATGGCAGGAAGAAGCGGAGACAGCGACGAA  
 GCGCTCCTCCAAGCAATAAAGATCATCAAGATCCTCTACCAAAGCAGTAAGTACCG  
 AATAGTATATGTAATGTTAGATTTAACTGCAAGAATAGATTCTAGATTAGGAATAGG  
 AGCATTGATAGTAGCACTAATCATAGCAATAATAGTGTGGACCATAGTATATATAG  
 AATATAGGAAATTGGTAAGGCAAAGGAAAATAGACTGGTTAGTTAAAAGGATTAGG  
 GAAAGAGCAGAAGACAGTGGCAATGAGAGCGAGGGGGGATACTGAAGAATTATCGA  
 CACTGGTGGATATGGGGCATCTTAGGCTTTTGGATGCTAATGATGTGTAATGTGAA  
 GGGCTTGTGGGTACAGTCTACTACGGGGTACCTGTGGGGAGAGAAGCAAAAAGT  
 ACTCTATTTTGTGCATCAGATGCTAAAGCATATGAGAAAGAAGTGCATAATGTCTG  
 GGCTACACATGCCTGTGTACCCACAGACCCCAACCCACAAGAAGTGATTTTGGGC  
 AATGTAACAGAAAATTTTAAACATGTGGAAAAATGACATGGTGGATCAGATGCAGG  
 AAGATATAATCAGTTTATGGGATCAAAGCCTTAAGCCATGTGTAAAATTGACCCCA  
 CTCTGTGTCACTTTAACTGTACAAATGCAACTGTAACTACAATAATACCTCTAAA  
 GACATGAAAAATTGCTCTTTCTATGTAACCACAGAATTAAGAGATAAGAAAAAGAA  
 AGAAAATGCACTTTTTTATAGACTTGATATAGTACCACTTAATAATAGGAAGAATGG  
 GAATATTAACAACTATAGATTAATAAATTGTAATACCTCAGCCATAACACAAGCCTG  
 TCCAAAAGTCTCGTTTGACCCAATTCCTATACATTATTGTGCTCCAGCTGGTTATGCG  
 CCTCTAAAATGTAATAATAAGAAATTCAATGGAATAGGACCATGCGATAATGTGAG  
 CACAGTACAATGTACACATGGAATTAAGCCAGTGGTATCAACTCAATTACTGTAA  
 TGGTAGCCTAGCAGAAGAAGAGATAATAATTAGATCTGAAAATCTGACAAACAATG  
 TCAAAACAATAATAGTACATCTTAATGAATCTATAGAGATTAAATGTACAAGACC

FIGURE 16

TGGCAATAATACAAGAAAGAGTGTGAGAATAGGACCAGGACAAGCATTCTATGCA  
ACAGGAGACATAATAGGAGATATAAGACAAGCACATTGTAACATTAGTAAAAATGA  
ATGGAATACAACCTTTACAAAGGGTAAGTCAAAAATTACAAGAACTCTTCCCTAATA  
GTACAGGGGATAAAATTTGCACCACACTCAGGAGGGGACCTAGAAATTACTACACAT  
AGCTTTAATTGTGGAGGAGAATTTTTCTATTGCAATACAACAGACCTGTTTAATAGT  
ACATACAGTAATGGTACATGCACTAATGGTACATGCATGTCTAATAATACAGAGCG  
CATCACACTCCAATGCAGAATAAAACAAATTATAAACATGTGGCAGGAGGTAGGAC  
GAGCAATGTATGCCCCCTCCCATTCGAGGAAACATAACATGTAGATCAAATATTACA  
GGACTACTATTAACACGTGATGGAGGAGATAATAATACTGAAACAGAGACATTCAG  
ACCTGGAGGAGGAGACATGAGGGACAATTGGAGAAGTGAATTATATAAATACAAG  
GTGGTAGAAATTAAACCATTAGGAGTAGCACCCACTGCTGCAAAAAGGAGAGTGGT  
GGAGAGAGAAAAAAGAGCAGTAGGAATAGGAGCTGTGTTCTTGGGTTCTTGGGAG  
CAGCAGGAAGCACTATGGGCGCAGCATCAATAACGCTGACGGTACAGGCCAGACAA  
TTATTGTCTGGTATAGTGCAACAGCAAAGTAATTTGCTGAGGGCTATAGAGGCGCAA  
CAGCATATGTTGCAACTCACGGTCTGGGGCATTAAAGCAGCTCCAGGCAAGAGTCCTG  
GCTATAGAGAGATACCTACAGGATCAACAGCTCCTAGGACTGTGGGGCTGCTCTGG  
AAAACCTCATCTGCACCCTAATGTGCTTTGGAACCTCTAGTTGGAGTAATAAACTCA  
AAGTGATATTTGGGATAACATGACCTGGATGCAGTGGGATAGGGAAATTAGTAATT  
ACACAAACACAATATACAGGTTGCTTGAAGACTCGCAAAGCCAGCAGGAAAGAAA  
TGAAAAAGATTTACTAGCATTGGACAGGTGGAACAATCTGTGGAATTGTTTTAGCAT  
AACAAATTGGCTGTGGTATATAAAAATATTCATAATGATAGTAGGAGGCTTGATAG  
GTTTAAGAATAATTTTTGCTGTGCTCTCTCTAGTAAATAGAGTTAGGCAGGGATACT  
CACCTTGTTCATTGCAGACCCTTATCCCAAACCCGAGGGGACCCGACAGGCTCGGA  
GGAATCGAAGAAGAAGGTGGAGAGCAAGACAGCAGCAGATCCATTTCGATTAGTGA  
GCGGATTCTTGACACTTGCCTGGGACGACCTACGAAGCCTGTGCCTCTTCTGCTACC  
ACCGATTGAGAGACTTCATATTAATTGTAGTGAGAGCAGTGGAACCTTCTGGGACAC  
AGTAGTCTCAGGGGACTGCAGAGGGGGTGGGGAACCCCTTAAGTATTTGGGGAGTCT  
TGTGCAATATTGGGGTCTAGAGTTAAAAAAGAGTGCTATTAATCTGCTTGATACTAT  
AGCAATAGCAGTAGCTGAAGGAACAGATAGGATTCTAGAATTCATACAAAACCTTT  
GTAGAGGTATCCGCAACGTACCTAGAAGAATAAGACAGGGCTTCGAAGCAGCTTTG  
CAATAAAATGGGGGGCAAGTGGTCAAAAAGCAGTATAATTGGATGGCCTGAAGTAA  
GAGAAAGAATCAGACGAACTAGGTCAGCAGCAGAGGGAGTAGGATCAGCGTCTCA  
AGACTTAGAGAAACATGGGGCACTTACAACCAGCAACACAGCCCACAACATGCTG  
CTTGCGCCTGGCTGGAAGCGCAAGAGGAGGAAGGAGAAGTAGGCTTTCCAGTCAGA  
CCTCAGGTACCTTTAAGACCAATGACTTATAAAGCAGCAATAGATCTCAGCTTCTTT  
TAAAAGAAAAGGGGGGACTGGAAGGGTTAATTTACTCCAAGAAAAGGCAAGAGAT  
CCTTGATTTGTGGGTTTATAACACACAAGGCTTCTTCCCTGATTGGCAAACTACAC  
ACCGGGACCAGGGGTGAGATTTCCACTGACCTTTGGATGGTACTTCAAGCTAGAGCC  
AGTCGATCCAAGGGAAGTAGAAGAGGCCAATGAAGGAGAAAACAACTGTTTACTAC  
ACCCTATGAGCCAGCATGGAATGGAGGATGAAGACAGAGAAGTATTAAGATGGAAG  
TTTGACAGTACGCTAGCACGCAGACACATGGCCCCGCGAGCTACATCCGGAGTATTAC  
AAAGACTGCTGACACAGAAGGGACTTTCCGCTGGGACTTTCCACTGGGGCGTTCCAG  
GAGGTGTGGTCTGGGCGGGACAGGGGAGTGGTCAGCCCTGAGATGCTGCATATAAG  
CAGCTGCTTTTCGCTGTACTGGGTCTCTCTAGGTAGACCAGATCTGAGCCCGGGAG

FIGURE 16

CTCTCTGGCTATCTAGGGAACCCACTGCTTAAGCCTCAATAAAGCTTGCCTTGAGTG  
CCTTGAGTAGTGTGTGCCCCGTCTGTTGTGTGACTCTGGTAACTAGAGATCCCTCAGA  
CCTTGTGGTAGTGTGGAAAATCTCTAGCA

FIGURE 16

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